

## Debt Maturity Structure, Accounting Conservatism, and their Implications on Egyptian Firms' Growth

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### Abstract

This paper aims to investigate the impact of accounting conservatism on the listed Egyptian firms' growth. Moreover, it investigates the relation between debt maturity structure and accounting conservatism and their implications on firms' growth. The primary sample of the study comprises 88 non-financial firms listed in the EGX-100 index per year for six years (2013-2018), while the final sample consisted of 422 company-year observations after excluding observations with missing or insufficient data. Givoly and Hayn (2000) measure of accounting conservatism is applied. This measure is a firm-specific measure and reflects the accounting accruals in the following period. The findings show that in emerging markets like Egypt, there is no significant relationship between debt maturity structure and accounting conservatism, suggesting that debt maturity structure is not a determinant of accounting conservatism within Egyptian firms. The study also finds that accounting conservatism has a significant negative impact on firms' growth rate and debt maturity structure does not enhance this impact. These results have important implications for policymakers, standard setters, and market participants in emerging economies.

**Keywords:** Accounting Conservatism, Egyptian firms, Debt maturity structure, Firms' growth.

## هيكل استحقاق الديون، والتحفظ المحاسبي، وتأثيرهما على نمو الشركات المصرية

### المستخلص:

يهدف هذا البحث إلى دراسة تأثير التحفظ المحاسبي على نمو الشركات المدرجة في البورصة المصرية. بالإضافة إلى ذلك، دراسة العلاقة بين هيكل استحقاق الديون والتحفظ المحاسبي وأثارهما على نمو الشركات. تضمنت العينة الأولية للدراسة 88 شركة غير مالية مدرجة في مؤشر EGX100 لسنة 2018 وتم الاستعانة بالقوائم المالية المصدرة من هذه الشركات لمدة ست سنوات (2013-2018)، بينما تكونت العينة النهائية من 422 مشاهدة بعد استبعاد المشاهدات التي تحتوي على بيانات ناقصة أو غير كافية. تم تطبيق مقياس (Givoly and Hayn (2000) للتحفظ المحاسبي. أظهرت النتائج أنه في الأسواق الناشئة مثل مصر، لا توجد علاقة ذات دلالة إحصائية بين هيكل استحقاق الديون والتحفظ المحاسبي، مما يشير إلى أن هيكل استحقاق الديون ليس عاملاً محددًا للتحفظ المحاسبي داخل الشركات المصرية. وجدت الدراسة أيضاً أن التحفظ المحاسبي له تأثير سلبي كبير على معدل نمو الشركات وهيكل استحقاق الديون لا يعزز هذا التأثير. هذه النتائج لها آثار مهمة على صانعي السياسات وواضعي المعايير والمشاركين في السوق وفي الاقتصادات الناشئة.

**الكلمات المفتاحية:** التحفظ المحاسبي، الشركات المصرية، هيكل استحقاق الديون، نمو الشركات.

## **1. Introduction**

Companies in Egypt, nowadays, are facing many sorts of challenges such as market globalization, competition intensity, and numerous changes in political and economic conditions. All these challenges might influence managerial financial reporting decisions. Since accounting standards have a degree of flexibility and leave some issues for managerial judgments, then, it is predicted that adopting a proper level of accounting conservatism would help in determining the quality of financial information. This prediction is based on the definition of accounting conservatism as it requires greater verification for gains than loss recognitions (Basu, 1997). For instance, theories in the literature support the hypotheses that accounting conservatism leads to informational benefits through mitigating the information asymmetry and resolve agency conflicts between insiders and outsiders (Sloan, 2001; Watts, 2003; Ball & Shivakumar, 2005; Lara et al., 2016; Goh et al., 2017).

Depending on such financial information would help investors, creditors, and other stakeholders to take the appropriate investment decisions to improve the efficiency of capital markets (Watt, 2003; Lambert et al. 2007; Ramadan, 2015; Kordlouie et al., 2014; Ugwunta & Ugwuany, 2019). Investors and creditors, who are the main sources of finance for any company that wants to grow and prospects, are the main beneficiaries of conservatism-provided informational benefit. The creditors assert that firms have to report their net total assets at the least possible value. This can be attained by the adoption of conservative reporting practices that would help in detecting covenant violations in a timelier manner (Ball & Shivakumar 2006; Ball et al., 2008). Hence, conservative reporting reflects a better moral hazard of managers that limits their opportunistic behavior and provides a tool to observe managers' behavior (Watts, 2003; LaFond & Watts, 2008; Gao, 2013).

Moreover, shortening the debt maturity could provide creditors with another tool to improve their oversight as it provides more opportunities for debt negotiation. Accordingly, shorter debt maturity might be an alternative for accounting conservatism. Therefore, debt contracts and debt horizons are predicted to have an association with conservative accounting practices. To the extent of the few existing literature that provides mixed results on the association between debt maturity structure and accounting

conservatism from different contexts, the present research purposes to examine the impact of debt maturity structure on accounting conservatism within the Egyptian listed companies.

In addition, various prior research in accounting conservatism considers the economic implications of conservatism to resolve the ongoing debate about the benefits or drawbacks of conservative reporting. These research focus on topics such as corporate governance, information asymmetry, agency conflicts, cost of capital, firm value, and investment efficiency (Ahmed & Duellman, 2007; Li, 2014; Goh et al., 2017). The proponents of conservatism indicate that accounting conservatism could lead to various benefits for the reporting organizations and their stakeholders.

For example, it is found that conservative reporting reduces financing cost, increases investment returns, and enhances the corporate cash value enhance firm's value, facilitate estimating the future cash flows, mitigates bankruptcy, and contribute to the efficient allocation of financial resources (Lambert et al., 2007; Biddle et al., 2013; Li, 2014; Biddle et al., 2020). Further, it has a positive impact on an organization's economic profit and performance indicators (Sana'a, 2016; Goh et al., 2017; El-Habashy, 2019). However, the opponents who criticize conservatism argued that conservatism biases financial statement numbers; hence, it increases the information asymmetry. Further, they claim that it conflicts with qualitative characteristics of accounting information (Hussein, 2016; El-Habashy, 2019).

Since the literature provided mixed results regarding the impact of conservatism based on different environmental contexts and different proxies for variables. Accordingly, the current research extends the few literature on the economic implications of conservatism on Egypt, as a developing country, by considering the relationship between conservatism and firms' growth. This has been motivated by the expectation that accounting conservatism would increase the trust of stakeholders in conservative firms, accordingly, provide those firms with the needed finance for growth. Further, this study adds to the literature that provides insight on whether a longer debt maturity structure with a high level of accounting conservatism could positively affect firms' growth in a

developing country, like Egypt. Each country differs in its economic, legislative, and political environments; hence, the results of this research could provide significant implications for researchers, corporate directors, creditors, investors, and policymakers in developing countries.

Our results reveal that accounting conservatism demand does not vary with debt maturity structure, inconsistent with the results revealed from developed countries. Our evidence also contrasts with that of prior studies that document a positive relation between conservatism and firms' growth. As the findings reveal a negative impact of conservatism on firms' growth level. These findings would help regulators and standard setters to pinpoint that Egyptian market participants might not value the practices of accounting conservatism, instead, it provides negative feedback about the company prospects. Hence, efforts are needed to improve the financial reporting quality in Egypt beyond concentrating on conservatism practices. The remainder of the paper is organized as follows. The next section discusses the research background, then, related literature review and hypotheses development. The research method is discussed, subsequently, the empirical results. The last section is the conclusions and limitations.

## **2. Literature Review and Hypotheses Development**

### **2.1. Definitions of Accounting Conservatism**

To understand the relation between Egyptian firms' conservatism level, debt maturity structure, and firms' growth, the various definition of conservatism in the literature needs to be documented. Although, accounting conservatism is an accounting policy that has been applied for decades. The accounting literature provides various and inconsistent definitions of conservatism from a different perspective. From an income statement perspective, Basu (1997) indicated that to have conservative accounting, recognizing good news is requiring a high degree of verification than required for recognizing bad news in earnings. Consequently, applying conservatism would lead to reflect economic losses on a timelier basis than economic gains (Watts, 2003; Kootanaee et al., 2013).

From the balance sheet perspective, Watts and Zimmerman (1986) defined conservatism as "recording the lowest value for assets among possible alternative values and the highest alternative value for liabilities".

In addition, Feltham and Ohlson (1995) definition of conservatism is "consistently selecting and using accounting policies that are resulting in minimum amount for assets of the company". Based on these definitions, in case of doubts and uncertainties adopt the reporting method or policy that provides the least desirable effect on equity.

To combine these two perspectives Givoly and Hayn (2000) defined conservatism as an accounting concept that delay recognition of earnings and accelerate the recognition of costs that lead to the reduction of reported accumulated earnings, low assessment of assets and high assessment of debts. Generally, it refers to accountants' preference to use accounting methods resulting in higher values of liabilities and expenses and lower values of assets and revenues (Belkaoui, 1985; Basu, 1997; Salehi & Sehat, 2019). Consequently, LaFond and Watts (2008) contend that "conservative financial reporting is a governance mechanism that reduces the managers' ability to manipulate and overstate financial performance and increases the firm's cash flows and value".

Prior literature distinct between conservatism types; conditional and unconditional conservatism. Conditional conservatism is market-based or news-dependent that rapidly acknowledges economic losses. It is defined based on Basu's (1997) as "the asymmetric response of earnings to economic gains and losses". While unconditional conservatism is accounting-based or news-independent. It reflects the net assets understatement and is not related to future cash flows' changes and reveals book values of the least ownership equity (Basu, 1997; Ball & Shivakumar, 2005; Beaver & Ryan, 2005, Hamdan; 2011).

The standard-setters defined conservatism in the Statement of Financial Accounting Concepts (SFAC) as "...a prudent reaction to uncertainty to try to ensure that uncertainties and risks inherent in business situations are adequately considered" (FASB, 1980). However, the International Accounting Standards Board (IASB) and Financial Accounting Standard Board (FASB), in 2010, have removed conservatism from the "Conceptual Framework for Financial Reporting" due to their belief that conservatism leads to accounting information biases and compromises neutrality (FASB 2010). The elimination of conservatism from financial reporting would change the behavior of managers and impose

substantial costs on investors and the economy (Watts, 2003). Accordingly, this study represents an attempt to discover whether the overall conservative reporting is necessary to improve the quality of financial reporting and facilitate reaching the needed finance for growth.

## **2.2. Accounting Conservatism and Debt Maturity Structure**

Various motivations for conservative reporting have been documented in the prior literature such as litigation, taxation, regulations, and contract requirements. The literature reported that litigation enhances the conservative accounting level as it decreases profits when there are high litigation risks (Watts, 2003). The taxation explanation indicates that conservative accounting is used to reduce or delay taxes by decreasing profits (Watts, 2003; Lara et al., 2009). Furthermore, regulations and disclosure requirements by various securities committees enhance the level of conservative financial reporting (Holthausen & Watts, 2001; Lara et al., 2009). Contracting requirements are the earliest sources of demand for conservatism. The main type of these contracts is debt contracts between companies and their debtholders.

Accounting conservatism could improve the efficiency of debt contracts and lead to better contract terms. Further, conservative accounting could be used as a mechanism to protect the rights of debtholders and shareholders as well (Watts 2003; Ball & Shivakumar 2005; Ruch & Taylor 2014; Hussein, 2016). As conservative reporting provides alternative monitoring mechanisms for debtholders through the early loss recognition as it can trigger detect covenant violations in a timelier manner (Ball & Shivakumar 2006; Ball et al., 2008). Furthermore, accounting conservatism could mitigate the information asymmetry and agency conflicts in the debt market (Watts, 2003; Ball & Shivakumar, 2005; Wittenberg-Moerman, 2008).

Prior studies on conservatism and debt financing, relying on agency cost theory, reported that accounting conservatism might affect or be affected by the cost of debts, the extent of debt usage as a source of finance, and the debt maturity structure (Beatty et al., 2008; Khurana & Wang, 2015; Salehi and Sehat, 2019; Goh et al., 2017). Hence, literature provides evidence supporting the assumption that the amount of

conservatism in financial reports is affected by lenders' demands for conservatism. For example, Watts (2003) claimed that debt contracting is one of the main explanations for the demand for conservative financial reporting, as debtholders are more concerned with downside risk than the upside potential of the firm's performance. Ball et al. (2008) found that the demand for conservatism originates from the debt markets. Gox and Wagenhofer (2009) reported that conservative reporting maximizes the ex-ante probability of obtaining debt financing. In the same line of studies, Callen et al. (2010) presumed that conservatism mitigates the agency costs of debt by providing means to better monitor the downside risks of management's investment strategies. As it assures timely loss recognition on the income statement and valuation of the firm's assets on the balance sheet at values more representing their liquidation values.

However, other studies analyze the impact of conservatism on selecting the best source of finance, as to issue debt or equity. For example, Ball, Robin, et al. (2008) indicated that the primary driver for accounting conservatism is debt rather than equity markets as timely economic losses' recognition enhances the effectiveness of debt contracts. In contrast, Goh et al. (2017) noticed that conservatism lessens information asymmetry more between firms and shareholders than between firms and debtholders. In addition, a high conservatism level is related to a greater cost of equity reduction than the cost of debt. Hence, Ball, Robin, et al. (2008) and Goh et al. (2017) concluded that conservative firms depend on equity more than debt as a source of finance. This result assumes that debtholders have alternate mechanisms for protection, such as debt covenants and collaterals.

Although the prior literature reported a significant association between conservatism and debt contracts, few studies tested whether this relationship would differ based on the debt maturity structure. The horizon of debt contracts might have a different effect on the demand for conservative reporting. Accounting conservatism and debt maturity structure relationship stems from the degree of information asymmetry and agency conflicts as well. Where accounting conservatism would reduce information asymmetry and short-term debt would have the same effect on information asymmetry. Theoretically, the greater information asymmetry firms would rely on short-term debt as they anticipate borrowing under more

favorable terms later (Flannery, 1986; Diamond, 1993; Custódio et al., 2013; Kang et al., 2017).

Hence, conservatism and short debt maturity might substitute each other to reach the same purpose. In addition, shorten the maturity of outstanding debt has been argued to mitigate agency conflicts by improving monitoring as it offers more frequent opportunities to renegotiate the debt (Myers, 1977). Although short-maturity debt has various strengths as explained earlier, firms are required to consider its risks such as liquidation risks due to too much refinancing and the consequent bankruptcy costs (Diamond, 1991; Khurana and Wang, 2015). Accordingly, it could be predicted that firms might provide conservative reporting to avoid these risks and get a longer maturity debt.

Khurana and Wang (2015) examined the relationship between debt maturity structure and accounting conservatism. Their findings, based on a sample of 78,541 firm-year observations, supported that short-maturity debt is negatively related to accounting conservatism. Further, the tests of the direction of causality suggested that more short-maturity debt leads to less conservative reporting, rather than the reverse. In contrast, another study showed that a firm's dependence on short maturity debts might enhance accounting conservatism as an attempt to receive better credit terms in form of lower cost of debt or higher debt maturity in the future (Zhang, 2008). Further, LaFond and Watts (2008) found that firms more reliant on the short-maturity debt would be more conservative to have better credit terms (e.g., longer maturity).

Moreover, the overall findings of Haw et al. (2014) indicated that private firms that issue public debt, maintain a high level of accounting conservatism during the post-issuance period. Kang et al. (2017) tested the relationship between conservative accounting and debt maturity and confirmed the positive relationship between conservatism and debt maturity. Therefore, an alternative assumption has been built in the literature that companies with short maturity debt might be more conservative to be able to borrow debt with longer maturities in the future. More recently, Salehi and Sehat (2019) examined how debt maturity structure and types of institutional ownership impact accounting conservatism on 858 firm-year observations for companies listed on the

Tehran Stock Exchange during 2011–2016. Their results reported that the impact of debt maturity structure on accounting conservatism is non-significant.

Given that there are various conflicting assumptions and findings analyzed from the literature regarding the association between debt maturity structure and the request for accounting conservatism. From one point of view, short-maturity debt is expected to mitigate both agency problems and information asymmetry then those companies with short maturity might not need a high level of conservatism in their financial reporting. This view predicts that the demand for conservative accounting as an alternate monitoring mechanism could be lower for short-term debts compared with long-term debts. This means that short debt maturity and conservatism may substitute each other, while long-term debt and conservatism complement each other. However, there is another point of view that companies with short maturity debt would demand greater conservatism to have better-contracting terms in the future. Therefore, the following null hypothesis is presented to examine this relationship between conservatism and debt maturity in the Egyptian context to explore if it differs with the change in the context applied:

**H<sub>1</sub>: There is no significant relationship between accounting conservatism and debt maturity structure.**

### **2.3. Conservatism and Firms' Growth**

The author next considers the association between accounting conservatism and firms' growth. One stream of studies considers firms' growth as a driver for accounting conservatism. For example, Skinner & Sloan (2002) suggest that firms' growth is an important driver of firms' reporting behavior. High-growth firms were found to have more incentives to use their reporting discretion to meet analysts' and market expectations, as failure in that could lead to negative market responses (Skinner & Sloan 2002). Therefore, high-growth firms are expected to have a lower degree of conservatism in their financial reports. Lobo et al. (2008) examined whether growth, as an economic driver, might foster aggressive reporting and thereby influence the degree of conservatism. Their findings indicated that high-growth firms do not exhibit conservatism, while low-growth firms exhibit high levels of conservatism. Accordingly, their results suggested

that reporting discretion might be used more aggressively by high-growth firms.

Another stream of studies considers accounting conservatism as a driver for firms' growth. Hashmi et al. (2018) investigated conditional conservatism effect on both debt maturity and externally financed growth. Based on a sample of 159 companies listed in the Tehran Stock Exchange for the period from 2006 to 2015, their findings reported that conditional conservatism impacts debt maturity positively, while it is negatively affecting the externally financed growth. Moreover, Shariat and Nahr (2016) aimed to examine the relationship between conservatism and firms' growth while considering debt maturity. Using data from 143 companies listed in Tehran Stock Exchange, the results showed that conditional conservatism did not positively relate to a company's growth. Additionally, the relationship between conservatism and firms' growth is affected by short-term debt maturity while not affected by long-term debt maturity.

Kang et al. (2017) examined the degree of variation in the accounting conservatism role in accelerating the growth of firms through external debt by considering the impact of debt maturity structure. Their findings based on a sample of united states firms during the years between 1987 and 2008, provided evidence that the use of a higher level of conditional conservatism in financial reporting, partially, alleviated the negative effects of information asymmetry on firms' growth. Accordingly, accounting conservatism might have an indirect positive impact on firms' growth through mitigating the information asymmetry that impacts the efficiency of the firm's investments and the firm's growth negatively (Stein, 2003). There are two conflicting arguments established by Kang et al. (2017) regarding the relationship between conservatism, external finance, and growth. Conservatism when considered a monitoring mechanism could attract needed finance for potential growth. In contrast, if conservative accounting is viewed as a mechanism that leads to reporting a lower value of net assets and increasing the leverage ratio, it would make needed finance for growth less accessible. However, Kang et al. (2017) supported that conservatism acts as a monitoring mechanism.

Overall, the lack of conservatism might lead to a lack of trust regarding firms' prospects which would negatively affect firms' growth. Further, conservative reporting leads to higher values of liabilities and expenses and lower values of assets and revenues, hence, high cost of finance. The absence of low-cost financing would mitigate investments and the firm's growth and vice-versa (Shariat & Nahr, 2016). Consequently, if conservatism is considered by the market as trust enhancing tool, it will increase confidence in the firm, accordingly, provide all needed finance for growth. However, if the conservatism impact on financial statement figures, is the only factor considered in providing finance to such companies, then it would negatively affect the firms' growth. Hence, there is a continuous debate on the impact conservatism could have on a firm's growth due to different assumptions adopted, conducting research in different contexts and different regulatory settings, and using different proxies. Based on this debate the second null hypothesis is formulated as follows:

**H<sub>2</sub>: There is no significant relationship between accounting conservatism and firms' growth.**

This hypothesis will be tested in the Egyptian context as previous studies support that firms located in less developed countries have barriers to obtain finance to have a better growth level. As firms would be able to get external financing and have faster growth if they are located in a well-developed legal system and active stock market countries compared with those from less developed countries (Demirgüç-Kunt and Maksimovic, 1998). Hence, if conservatism is applied as a controlling tool, it would assist firms in less developed countries to obtain finance at a low cost and would increase the possibility of their growth.

Although previous research has revealed the relationship between conservatism and growth, few studies considered the impact of debt maturity (Shariat & Nahr, 2016; Kang et al., 2017; Hashmi et al. 2018). Debt maturity is found to have a negative relationship with the firm's growth opportunities (Barclay & Smith, 1995). As discussed earlier, Shariat and Nahr (2016) indicated that short-term debt maturity affects the relationship between conservatism and firms' growth, while long-term debt maturity not. Furthermore, Kang et al. (2017) showed that conservatism act

as a monitoring mechanism that helps in reaching debt at better terms and longer maturity that would enhance firms' growth. Therefore, it is predicted that the relationship between conservatism and firms' growth could be enhanced by debt maturity structure or long-term debt. Hence, our third null hypothesis is formulated as follows:

**H<sub>3</sub>: Debt maturity structure has no effect on the relationship between conservatism and firms' growth.**

### **3. Data Sources and Sample Selection**

To achieve this study objective and test our hypotheses, the targeted population is all non-financial publicly traded companies listed on the main market of the Egyptian Stock Exchange. Financial companies are excluded as they apply specific treatment in their accounting practices, and they are subject to different reporting requirements. The period covered in this study is 2013-2018 as it represents the most recent years that would amplify the current level of accounting conservatism within the Egyptian companies' context. Our primary sample is companies listed in the EGX-100 index as it measures the performance of the best publicly traded companies in the market. There are eighty-eight non-financial firms listed in the EGX-100 index according to the last list obtained at the beginning of 2020.

In this study, the ranks of conservatism measures over 3 years (from time t-1 to time t) are averaged. Hence, data for the years 2012 and 2019 are included for averaging purposes. While the primary sample consisted of 88 companies per year for six years (2013-2018), the final sample consisted of 422 company-year observations after excluding observations with missing or insufficient data. This will lead us to estimate panel data regression models that consider the individual effects of companies and periods studied. The database of "Thomson Financial" for the Egyptian firms is the main source of our accounting data needed to measure the study variables.

## **4. Variable Measurements**

### **4.1. Accounting Conservatism Measure**

The literature provided various types of measures of conservatism. Consistent with recent studies conducted in a similar context, accounting conservatism is measured in this study based on the accrual basis measure

suggested by Givoly and Hayn (2000) and Ahmed and Duellman (2007) (Shariat & Nahr, 2016; Ramalingegowda & Yu, 2018; El-Habashy, 2019). This measure is a firm-specific measure and reflects the accounting accruals in the following period. Accounting conservatism would result in negative accruals as it accelerates the recognition of losses compared with the economic gains. The negative accruals measure of conservatism is applied as it is argued that it reveals the effects of both unconditional and conditional conservatism (Ruch & Taylor, 2011; Xie, 2015; Hussein, 2016). Hence, Givoly and Hayn (2000) model is applied by averaging the accruals for a specific firm over 3 years (t-1), (t), and (t+1) to absorb any abnormality in any specific year (Ramalingegowda & Yu, 2018) as expressed in equation (1). Further, accounting conservatism is measured directly for each year model as expressed in equation (2). These equations are multiplied by -1, hence, the greater the positive values of CONACC indicate greater conservatism and vice versa.

$$Accruals_{it} = (EBEXT_{it} + DEP_{it} - OCF_{it})/TA$$

$$CONACC_1 = (\text{Average accruals for 3 years}) \times (-1) \dots\dots\dots \text{equation (1)}$$

$$CONACC_2 = Accruals_{it} \times (-1) \dots\dots\dots \text{equation (2)}$$

Where: CONACC<sub>1</sub> is the accounting conservatism using the accrual-based measure for a firm (i) averaged for 3 years, CONACC<sub>2</sub> is the accounting conservatism based on the accrual-based measure for a firm (i) in a year (t). EBEXT is the income before tax and extraordinary items, DEP is the depreciation expense for the year, OCF is operating cash flow, and TA is total assets.

#### **4.2. Firms' Growth Measure**

In this study, firms' growth is measured as the growth of the firm's assets. Then, Grow<sub>it</sub> is the growth of firm (i) in a year (t) that is the total assets of the current year minus total assets of the previous year divided by total assets of the previous year (Kaplan & Norton, 1992; Shariat & Nahr, 2016).

$$Grow_{it} = (TA_{it} - TA_{it-1}) / TA_{it-1} \dots\dots\dots \text{equation (3)}$$

Where, TA<sub>it</sub> is the total assets of a firm (i) in a year (t), TA<sub>it-1</sub> is the total assets of a firm (i) in a year (t-1).

### **4.3. Debt Maturity Structure Measure**

The present research divide firm's debt into short-term and long-term debt considering their maturities. Then, focus on long-term debt effects on accounting conservatism and firms' growth. Consistent with Salehi & Sehat (2019), Fan et al. (2012), and Wang et al. (2010), the ratio of long-term debt to total debt is applied as a proxy for the debt maturity structure.

### **4.4. Control Variables' Measures**

In addition to the main variables of our hypotheses (i.e., conservatism, debt maturity, and firms' growth), control variables, that were found to influence the relationships between the main variables, are included. Firm leverage was found to affect the level of accounting conservatism and firms' growth. While in this study, the focus is on the debt maturity structures, many previous studies found that the higher the degree of financial leverage the more the level of accounting conservatism (Khan & Watts, 2009, Hamdan, 2011). This finding is based on the prediction that more accounting conservatism could mitigate agency costs between lenders and borrowers. In addition, it has been found that there is a significant relationship between firms' growth rate and financial leverage (Huynh & Petrunia, 2010; Bei & Wijewardana, 2012; Shariat & Nahr, 2016). Leveraged is measured in this study using the total debt to total assets ratio.

Firm size is also included as a control variable, as many previous studies confirmed that firm size had an impact on accounting conservatism level and firms' growth as well (Madininos et al., 2011; Hamdan, 2011; Shariat & Nahr, 2016). Maditinos et al. (2011) supported that there is a significant negative relationship between firm size and conservatism. Further, Shariat and Nahr (2016) results showed that there has been a positive significant relationship between size and a firm's growth. Accordingly, in the model that includes accounting conservatism and firms' growth, it seems a necessity to control for firm size. Firm size ( $SIZE_{it}$ ) will be measured using the natural logarithm of the total assets of a firm (i) in a year (t).

## **5. Research Models**

To test the research hypotheses, the following regression models are developed; the first model represents the relationship between accounting conservatism and debt maturity structure represented by the ratio of long-

term debt to total debt. In addition, two control variables that might affect this relationship are included, these variables are firm size and leverage. This model is examined twice to consider the two measures of conservatism CONACC<sub>1</sub> and CONACC<sub>2</sub>.

$$\text{CONACC} = \beta_0 + \beta_1 \text{Lg.DEBT} + \beta_2 \text{SIZE}_{it} + \beta_3 \text{LEV}_{it} + \epsilon_{it} \dots \text{Model (1)}$$

The second model represents the relationship between accounting conservatism and firms' growth and the two control variables that might affect this relationship is included, these variables are firm size and leverage.

$$\text{Grow}_{it} = \beta_0 + \beta_1 \text{CONACC}_1 + \beta_2 \text{CONACC}_2 + \beta_3 \text{SIZE}_{it} + \beta_4 \text{LEV}_{it} + \epsilon_{it} \dots \text{Model (2)}$$

The third model represents the relationship between accounting conservatism, the interaction between accounting conservatism and long-term debt, the firms' growth, and the two control variables: firm size and leverage.

$$\begin{aligned} \text{Grow}_{it} = & \beta_0 + \beta_1 \text{CONACC}_1 + \beta_2 \text{CONACC}_2 + \\ & \beta_3 \text{Lg.DEBT} + \beta_4 \text{CONACC}_1 * \text{Lg.DEBT} + \beta_5 \text{CONACC}_2 * \text{Lg.DEBT} + \beta_6 \\ & \text{SIZE}_{it} + \beta_7 \text{LEV}_{it} + \epsilon_{it} \dots \text{Model (3)} \end{aligned}$$

## 6. Data Analysis and Discussion of Results

Four statistical techniques were employed in this study to analyze the empirical data using the Statistical Package for the Social Sciences (SPSS, ver. 26.0). There were Descriptive analysis, Pearson's correlation, Variance inflation factor, and Regression modeling.

### 6.1. Descriptive Statistics

This section presents the descriptive measures of each of the study variables. The descriptive analysis provides the mean, the median, the standard deviation, the minimum value, the maximum value, and the range for each continuous variable. The results of the descriptive analysis are represented in Table (1).

**Table (1): Descriptive Statistics**

	CONACC <sub>1</sub>	CONACC <sub>2</sub>	Lg-DEBT	SIZE	LEV	Grow
<b>N</b>	422	422	422	422	422	422
<b>Mean</b>	-.017358	-.019197	.217459	6.253338	.495049	.129072
<b>Median</b>	-.011704	-.005167	.145578	6.328205	.494030	.074086
<b>Std. Deviation</b>	.054729	.088892	.207359	.713958	.242672	.223946
<b>Range</b>	.374684	.717477	.953508	3.491354	1.645893	1.402479
<b>Minimum</b>	-.205459	-.507885	0	4.492153	.004621	-.259497
<b>Maximum</b>	.169225	.209593	.953508	7.983507	1.650514	1.142983

For the sample firms, descriptive statistics show that accounting conservatism first measure (CONACC<sub>1</sub>), based on three years average of accruals, ranges from (-.2055) extremely low conservative firms to (.1692) firms with a high level of conservatism with a mean and median value of (-.0174) and (-.0117), respectively. Further, the other measure of conservatism (CONACC<sub>2</sub>), which is based on a yearly accrual, ranges from (-.507885) to (.209593) with a mean and median value of (-.019197) and (-.005167), respectively. Hence, (CONACC<sub>2</sub>)'s analysis supports the analysis of (CONACC<sub>1</sub>) by higher values over the entire sample period. The long-term debt variable (Lg-DEBT) minimum value is (0) which means that depending on long-term debt to finance a firm's operation or growth is optional for firms according to their needs. However, the median value shows that more than 50% of the sample firms have less than 14% of long-term debt in their debt structure.

Additionally, the mean value of firm SIZE is (6.253) and the median is (6.328). The range of the size in the sample is from (4.492) to (7.984) which means that the sample firms vary in their size that represents the Egyptian market firms. The mean of the leverage variable indicated that 49.5% of the firms approximately finance their assets through debts. Regarding firms' growth, the average mean is 12.9%, which indicates that firms' growth, within Egyptian firms, is relatively low.

## **6.2. Pearson Correlation Test**

Table (2) presents the results of using Pearson's Correlation with a two-tailed significance test. The most correlated variable with accounting conservatism first measure (CONACC<sub>1</sub>) is firms' growth (GROW)

significant at the 0.01 level. The most correlated variable with accounting conservatism second measure (CONACC<sub>2</sub>) is also firms' growth (GROW) significant at the 0.01 level. In addition, the Pearson coefficients indicate that the relationship between accounting conservatism both variables, and firms' growth is negative. The long-term debt variable has no relation with firms' growth. However, the relationship between the interaction between long-term debt and accounting conservatism first measure (CONACC<sub>1</sub> x Lg-DEBT) and firms' growth (GROW) is significant at the 0.05 level. Further, the interaction between long-term debt and accounting conservatism second measure (CONACC<sub>2</sub> x Lg-DEBT) and firms' growth (GROW) is significant at the 0.01 level. Firm size (SIZE) correlates with accounting conservatism first measure (CONACC<sub>1</sub>) and with firms' growth (GROW) at a significant level of 0.05 and 0.01, respectively.

### **6.3. Variance Inflation Factor**

Variance Inflation Factor (VIF) is used to check the existence of significant multicollinearity among the independent variables in each tested regression model. As shown in Table (3), the tolerance values are greater than 0.10 and 0.20, further, the (VIF) values of all variables are lower than 5 or 10. The results indicate that no multicollinearity problem exists.

**Table (2): Correlation among Variables**

		CONACC <sub>1</sub>	CONACC <sub>2</sub>	Lg-DEBT	CONACC <sub>1</sub> x Lg-DEBT	CONACC <sub>2</sub> x Lg-DEBT	SIZE	LEV	GROW
<b>CONACC1</b>	Pearson Correlation Sig. (2-tailed)	1							
<b>CONACC2</b>	Pearson Correlation Sig. (2-tailed)	.550**	1						
<b>Lg-DEBT</b>	Pearson Correlation Sig. (2-tailed)	.053	.007	1					
<b>CONACC<sub>1</sub>x Lg-DEBT</b>	Pearson Correlation Sig. (2-tailed)	.630**	.389**	-.214**	1				
<b>CONACC<sub>2</sub>x Lg-DEBT</b>	Pearson Correlation Sig. (2-tailed)	.386**	.607**	-.177*	.660**	1			
<b>SIZE</b>	Pearson Correlation Sig. (2-tailed)	.102*	.030	.077	.088	.057	1		
		.036	.534	.113	.072	.240			

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<b>LEV</b>	Pearson Correlation	-.024	-.012	.116*	-.053	-.032	.150**	1	
	Sig. (2-tailed)	.619	.804	.017	.277	.506	.002		
<b>GROW</b>	Pearson Correlation	-.207**	-.254**	-.001	-.122*	-.182**	.163**	.082	1
	Sig. (2-tailed)	.000	.000	.984	.012	.000	.001	.093	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

**Table (3): Variance Inflation Factor**

<b>Panel A: 1<sup>st</sup> Regression Model a/b</b>			
	<b><u>Model</u></b>	<b><u>Collinearity Statistics</u></b>	
		<b><u>Tolerance</u></b>	<b><u>VIF</u></b>
	Lg-DEBT	0.983	1.017
	SIZE	0.974	1.027
	LEV	0.966	1.035
Dependent variable: CONACC <sub>1</sub> and CONACC <sub>2</sub>			
<b>Panel B: 2<sup>nd</sup> Regression Model</b>			
	<b><u>Model</u></b>	<b><u>Tolerance</u></b>	
		<b><u>Tolerance</u></b>	<b><u>VIF</u></b>
	CONACC <sub>1</sub>	0.689	1.452
	CONACC <sub>2</sub>	0.696	1.436
	SIZE	0.965	1.036
	LEV	0.976	1.025
Dependent variable: Grow			
<b>Panel C: 3<sup>rd</sup> Regression Model</b>			
	<b><u>Model</u></b>	<b><u>Tolerance</u></b>	
		<b><u>Tolerance</u></b>	<b><u>VIF</u></b>
	CONACC <sub>1</sub>	.516	1.938
	CONACC <sub>2</sub>	.582	1.717
	CONACC <sub>1</sub> x Lg-DEBT	.390	2.562
	CONACC <sub>2</sub> x Lg-DEBT	.421	2.373
	Lg-DEBT	.897	1.115
	SIZE	.979	1.022
	LEV	.903	1.107
Dependent variable: Grow			

#### **6.4. Multivariate Analysis**

Multivariate regression analysis was conducted for the three-model tested in this study. The first model tests the relationship between debt maturity structure and accounting conservatism. The second model examines the association between accounting conservatism and firms' growth. The third model tests the effect of accounting conservatism, debt maturity structure, the interaction between conservatism and debt maturity structure on a firm's growth.

#### **6.4.1. Results of the Relation between Debt Maturity & Accounting Conservatism**

The first model examines the impact of debt maturity structure, proxied by the ratio of long-term debt to total debt, on the level of accounting conservatism. This model is examined twice to consider both measures, the average and yearly accruals measure of conservatism. From the results presented in Tables (4 and 5), the values of R-squares are extremely low and are not significant which means that the two models are not significant. From panel (B) of the same tables all the models' coefficients, except the constant and firm size in the model (1a), are not significant. This means that only firm size to some extent can predict the change in accounting conservatism level. The regression model according to these results includes only the constant term and firm size to predict conservatism level.

Based on these results, it can be concluded that, in Egypt, firms' accounting conservatism is not affected by lenders' demands for conservatism, in addition, the debt horizon is not one of the factors that enhance conservatism level. Therefore, the first null hypothesis is accepted as it is found that there is no significant relationship between accounting conservatism and debt maturity structure, proxied by long-term debt ratio. These results are consistent with the assumption of Goh et al. (2017) that debtholders have alternative mechanisms to protect themselves, such as debt covenants and collaterals, rather than depending on accounting conservatism. Our results are also consistent with a recent study of Salehi and Sehat (2019) findings that the relationship between accounting conservatism and debt maturity structure is non-significant.

**Table (4): Multiple Regression Analysis of the Relation between Debt Maturity & Accounting Conservatism 3 Years Average Measure:**

Panel A: Model (1a) Summary					
	<i>R</i>	<i>R</i> <sup>2</sup>	<i>Adjusted R</i> <sup>2</sup>	<i>Std. Error</i>	
	0.12	.014	.007	0.054527	
Panel B: Coefficients					
Independent variables	<u>Unstandardized Coefficients</u>		<u>Standardized Coefficients</u>		
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t-value</i>	<i>Sig.</i>
(Constant)	-.065	.024		-2.781	.006
Lg-DEBT	.013	.013	.050	1.019	.309
SIZE	.008	.004	.105	2.133	.033*
LEV	-.010	.011	-.046	-.929	.353
Dependent Variable: CONACC <sub>1</sub>					

**Table (5): Multiple Regression Analysis of the Relation between Debt Maturity & Accounting Conservatism Yearly Accruals Measure:**

Panel A: Model (1b) Summary					
	<i>R</i>	<i>R</i> <sup>2</sup>	<i>Adjusted R</i> <sup>2</sup>	<i>Std. Error</i>	
	.035	.001	-.006	.089154	
Panel B: Coefficients					
Independent variables	<u>Unstandardized Coefficients</u>		<u>Standardized Coefficients</u>		
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t-value</i>	<i>Sig.</i>
(Constant)	-.042	.038		-1.091	.276
Lg-DEBT	.003	.021	.007	.140	.889
SIZE	.004	.006	.033	.657	.512
LEV	-.007	.018	-.018	-.358	.721
Dependent Variable: CONACC <sub>2</sub>					

### 6.4.2. Results of the Relation between Accounting Conservatism & Firms' Growth

The second model examines the impact of accounting conservatism measures on firms' growth. The results of the multiple regression analysis for this model are presented below in Table (6).

**Table (6): Analysis of the relationship between accounting conservatism and firms' growth:**

<b>Panel A: Model (2) Summary</b>					
	<i>R</i>	<i>R</i> <sup>2</sup>	<i>Adjusted R</i> <sup>2</sup>	<i>Std. Error</i>	
	.325	.106	.097	.2127	
<b>Panel B: Coefficients</b>					
<b>Independent variables</b>	<u><i>Unstandardized Coefficients</i></u>		<u><i>Standardized Coefficients</i></u>		
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t-value</i>	<i>Sig.</i>
(Constant)	-.251	.093		-2.713	.007
CONACC <sub>1</sub>	-.476	.228	-.116	-2.084	.038
CONACC <sub>2</sub>	-.490	.140	-.194	-3.503	.001
SIZE	.054	.015	.173	3.671	.000
LEV	.047	.043	.051	1.080	.281

**Dependent Variable:** Grow

According to the results in Table (6); the full regression model explains 10.6% of the change in firms' growth variations. This low value of "R<sup>2</sup>" might be acceptable in the field of social science as numerous other variables may affect managerial decisions to have conservative reporting other than those included in our model. In table (6) results reveals that firm size has a significant positive relationship with a firm's growth. Further, both measures of accounting conservatism were found to have negative significant relationships with firms' growth at significant levels of 0.05 and .01, respectively. This result is consistent with Hashmi et al. (2018) who found that conservatism has a negative effect on externally financed growth. Hence, the second null hypothesis that there is no significant relationship between accounting conservatism and firms' growth is rejected

as within Egyptian firms accounting conservatism has a significant negative impact on firms' growth.

### **6.4.3. Results of the Relation between Accounting Conservatism, Debt Maturity Structure & Firms' growth**

The results of multiple regression of the third study model show that the model explains only 11% of the variation of the firms' growth. Results in table (7) reveal those two types of accounting conservatism that are tested in this study; namely, CONACC<sub>1</sub> and CONACC<sub>2</sub> have a significant negative relationship with the firm's growth. Further, the firm size was found to have a significant positive relationship with firms' growth. The rest of the independent variables have insignificant effects on firms' growth. Hence, debt maturity structure, proxied by the ratio of long-term debt to total debt, has no direct relationship with firms' growth. The interactions between accounting conservatism measures and long-term debt have no relation with firms' growth. This result consistent with Shariat and Nahr (2016) findings that the relationship between conservatism and firms' growth is not affected by long-term debt maturity. Therefore, the third null hypothesis that debt maturity structure does not affect the relationship between accounting conservatism and firms' growth is accepted.

**Table (7): Multiple Regression Analysis of the Relationship between Accounting Conservatism, Debt Maturity Structure, and Firms' Growth:**

<b>Panel A: Model (2) Summary</b>					
	<i>R</i>	<i>R</i> <sup>2</sup>	<i>Adjusted R</i> <sup>2</sup>	<i>Std. Error</i>	
	.331	.11	.095	.21307	
<b>Panel B: Coefficients</b>					
<b>Independent variables</b>	<u><i>Unstandardized Coefficients</i></u>		<u><i>Standardized Coefficients</i></u>		
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t-value</i>	<i>Sig.</i>
(Constant)	-.253	.093		-2.725	.007
CONACC <sub>1</sub>	-.648	.294	-.158	-2.204	.028*
CONACC <sub>2</sub>	-.361	.173	-.143	-2.084	.038*

CONACC <sub>1</sub> x					
Lg-DEBT	-.012	.053	-.011	-.220	.826
CONACC <sub>2</sub> x					
Lg-DEBT	1.117	1.064	.084	1.050	.294
Lg-DEBT	-.824	.630	-.100	-1.307	.192
SIZE	.055	.015	.175	3.688	.000*
LEV	.048	.044	.052	1.111	.267

**Dependent Variable:** Grow

## 7. Conclusions

The main purpose of the current study is to test the impact of debt maturity structure on the firms' accounting conservatism. In addition, the relationship between accounting conservatism and firms' growth and to what extent debt maturity structure would enhance this relationship is investigated. This study covers a period from 2013 to 2018 with a final sample consists of 422 firm-year observations for non-financial companies listed in EGX-100. The findings show that in emerging markets like Egypt, debt maturity structure, measured by long-term debt ratio to total debt, and debt contracts, measured by leverage, have no significant relationship with accounting conservatism. This result does not support the assumption that debt horizon and debt contracts could enhance the level of conservative reporting.

However, this result can be justified on the ground that the debt contract requirements are not one of the factors to enhance the decision of providing more conservative reporting within Egyptian firms as reported by Goh et al. (2017) and Salehi and Sehat (2019). In addition, in developing countries, debtholders might depend on other more strict mechanisms to protect themselves, such as debt covenants and collaterals, rather than depending on accounting conservatism. The results of the statistical analysis also revealed that the two measures of accounting conservatism have a significant but negative relationship with a firm's growth. This result is consistent with Hashmi et al. (2018). This negative relationship reports that Egyptian market participants are not supporting that conservatism can act as a monitoring mechanism. Instead, accounting conservatism's negative reflection on financial figures deters firms' growth as it might increase the cost of finance and make it inaccessible.

Finally, the results of considering the role of debt maturity structure on the relationship between conservatism and firms' growth, reveals that there is no significant relationship between debt maturity structure or the interaction between conservatism and debt maturity structure on firms' growth. This result indicates that the type of the existing debt contracts and their maturity structure will not affect/enhance the relation between conservatism and growth. This result is inconsistent with (Kang et al. (2017) study on the moderating effect of debt maturity structure on the relationship between accounting conservatism and a firm's growth. While it is consistent with Shariat and Nahr (2016) regard the relationship between conservatism and firms' growth is not affected by long-term debt maturity. These results could be due to the preceding findings that debt maturity structure is not one of the factors that influence conservatism level, hence, its interaction with conservatism would also do not affect firms' growth.

However, this study is subject to some limitations. As it tests the impact of accounting conservatism and debt maturity structure on firms' growth within Egyptian firms using the EGX 100, hence, results obtained may not be generalized to countries with different legal institutions, political, and economic environments. Furthermore, the results are constrained by the proxies applied to measure the study variables. Despite these limitations, this study takes an important step toward advancing understanding of the view of market participants regarding the factors influencing conservative reporting and its real benefits or drawbacks. In Egypt, the governors such as Egyptian Ministry of Finance (MoF) and Ministry of Investment and International Cooperation, regulators such as; Financial Regulatory Authority (FRA), and accounting bodies in Egypt; Egyptian Society of Accountants & Auditors, Egyptian Exchange (EGX), and Tax Authority should emphasize the real impact of conservatism on the firms' growth and accordingly its prospective.

## **8. Future Research**

There are opportunities to carry out future research to consider a wide range of factors that might affect the relationship between conservatism and growth. For example, ownership structure, life-cycle stage, and corporate governance mechanisms are rich avenues for in-depth future research within the Egyptian context. Furthermore, the relationship between

conservatism and market reactions or firm valuation or stock prices could be considered instead of firms' growth to examine the effect on market-based variables. Another opportunity for future research is to consider the relationship between conservatism and growth within the financial sectors. Applying the research in different countries or contexts and applying different proxies might yield different results.

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